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ABSTRACT

This paper describes a classroom activity to demonstrate to undergraduate psychology students studying learning principles the principle of negative reinforcement. The students (n=25) were either enrolled in an introductory psychology course at a business college or the students (n=21) were enrolled in an educational psychology course at a state university. In the experiment the class instructor and a volunteer student role play a simulated spousal situation in which capitulation to the spouse's anger and unreasonable demands serves to negatively reinforce this behavior. Evaluation following the demonstration in two classes indicated that students overwhelmingly found the demonstration useful in understanding the concept of negative reinforcement, found the demonstration to be a useful learning experience, found the demonstration was effective in holding their attention, felt the demonstration should be used in future classes, and reported they enjoyed the demonstration. (DB)

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A Classroom Activity to Demonstrate the Principle of Negative Reinforcement *

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A Classroom Activity to Demonstrate the Principle of Negative Reinforcement

Learning can be defined as a relatively permanent change in behavior as the result of experience. There are a number of psychological theories which describe how people learn. Operant conditioning is one such learning theory (Skinner, 1953). This theory predicts that the likelihood of a behavior reoccurring is increased as a result of the consequences of the behavior.

While a number of concepts associated with operant conditioning are easily mastered by undergraduate students, these same students frequently report and demonstrate confusion in their understanding of the concept of negative reinforcement (McConnell, 1990; Tauber, 1988). Students readily confuse the concept of negative reinforcement with the principle of punishment and/or positive reinforcement.

While negative reinforcement increases the likelihood that a behavior will reoccur as the result of the removal of an aversive stimulus (Skinner, 1953), students tend to focus on the word negative and conclude that it should decrease the likelihood of a behavior reoccurring.

The present demonstration was developed as a means of providing a concrete, real life example of the principle of negative reinforcement.

Subjects

This demonstration of negative reinforcement and the subsequent student evaluations were conducted in two undergraduate classes. The students were either enrolled in an introductory psychology course at a business college (n=25) or an educational psychology course at a state university (n=21).

Procedure

The demonstration of negative reinforcement was presented as part of a unit on the principles of learning. Basic principles of learning were discussed during the class session prior to the demonstration. A request was then made for a volunteer to take part in the demonstration. The volunteer/confederate was requested to leave the room. The class was then instructed that the volunteer and instructor were going to return to the classroom as a married couple. When they came back into the room, the class was instructed to watch what unfolds. The instructor then left the room to explain the scenario to the volunteer. The student is instructed to pretend that he/she is the spouse. The instructor acts as the second spouse and attempts to persuade the student to go out for the evening. The student resists various attempts to change her/his mind by saying that he/she has to study for a psychology exam. As the spouse (instructor) continues to try and persuade the student, the instructor becomes increasingly adamant,

raising his/her voice and demonstrating frustration over not achieving his/her goal. At the height of the interaction, the instructor pounds his/her hand onto a table top. This serves as a cue for the student to capitulate as opposed to studying as planned.

After the demonstration, a class discussion was conducted by the instructor. The instructor asks the class to identify the learning principle they had just observed. Student's eventually recognize this demonstration as reflecting the principle of negative reinforcement. With this recognition and discussion comes an understanding that the spouse/student acted as an agent of reinforcement when he/she capitulated. This relieved the anger (negative reinforcement) of the spouse/student. Discussion typically focuses on helping students recognize instances of negative reinforcement in their own lives.

Student Evaluations

As a means of determining the effectiveness of this demonstration, a questionnaire was developed. This questionnaire was completed anonymously by the students following the demonstration and the initial portion of the discussion. The questionnaire was comprised of five questions using a five point likert scale (1=Strongly Disagree to 5=Strongly Agree). The answers were analyzed across classes as well as by group membership in either of the two class settings.

Results

The first item of the questionnaire probed the usefulness of the demonstration in the understanding of the concept of negative reinforcement. Results indicated that the majority of respondents either agreed (67%) or strongly agreed (33%) with this statement. The mean rating for this item was 4.33 (See Table 1). The second item queried whether the students viewed this demonstration as a useful learning experience. Sixty-five percent of the students agreed that the demonstration was useful and 33% strongly agreed. The mean rating for this question was 4.3 (See Table 1). The third question was designed to assess the attention level of students during the demonstration. Thirty-seven percent agreed and 61% strongly agreed that the demonstration was effective in holding their attention. The mean rating was 4.59 (See Table 1). When asked whether or not the demonstration should be used in future classes, 45% agreed and 54% strongly agreed with this statement. The mean rating was 4.54 (See Table 1). A final item queried the enjoyment of the demonstration. Thirty-five percent of the students agreed and 61% strongly agreed that the demonstration was enjoyable. The mean rating for this item was 4.54 (See Table 1).

Table 1

Results of the Student Evaluation Questionnaire

Variable	Mean	Std Dev
UNDERSTANDING	4.33	.47
USEFUL	4.30	.51
ATTENTION	4.59	.54
USED AGAIN	4.54	.50
ENJOY	4.54	.66

Multiple t-Tests were conducted to identify any group differences in response patterns based on college or university enrollment. The results of the t-Tests were non-significant across all five of the items on the questionnaire by group membership (See Table 2).

Table 2

Results of t-Tests Across Student Groups

VARIABLE	T-VALUE	p VALUE
UNDERSTANDING	t=1.82	.075
USEFUL	t= .22	.824
ATTENTION	t= .18	.861
USED AGAIN	t=1.43	.158
ENJOY	t=1.09	.282

Conclusions

This presentation was developed as a learning mechanism for use with undergraduate students to demonstrate the concept of negative reinforcement. The demonstration was used during a unit on the principles of learning with two

groups of students. One group was enrolled in an educational psychology course at a state university while the other group were students at a neighboring business college. Student responses to a questionnaire using a five point likert scale reflected 96% or more of the students responded favorably to the enjoyment and usefulness of the demonstration. The results of a t-Test supported the demonstration's usefulness in relation to diverse student populations.

These results suggest this demonstration is an effective means of teaching the concept of negative reinforcement to a wide range of undergraduate students. The effectiveness of the demonstration may be linked to its uniqueness within the classroom setting and/or the real life parallels it presents for consideration.

References

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